

Name: \_\_\_\_\_

Math 10F&amp;IPC

Date: \_\_\_\_\_

**Chapter 7 System of Equations****Section 7.1B : Developing Systems of Linear Equations****Example 1:** Which linear system has the solution  $x = 4$  and  $y = -2$ ?

- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| a. $x + 4y = 15$<br>$4x - 2y = -17$ | c. $4x + y = 14$<br>$-2x + 4y = -16$ |
| b. $2x + 4y = 4$<br>$-2x + y = 14$  | d. $x + 4y = 4$<br>$2x + 4y = 8$     |

**Try:** Which linear system has the solution  $x = 8$  and  $y = 2.5$ ?

- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| a. $2x + 2y = 21$<br>$2x - 2y = 11$ | c. $2x + 2y = 8$<br>$x - y = 21$  |
| b. $x + 2y = 8$<br>$2x - 4y = 16$   | d. $x + 3y = 22$<br>$2x - y = 10$ |

**Example 2:** Create a linear system to model this situation:

The perimeter of an isosceles triangle is 36 cm. The base of the triangle is 9 cm longer than each equal side.

- |                                |                                 |                                 |                                 |
|--------------------------------|---------------------------------|---------------------------------|---------------------------------|
| a. $s + b = 36$<br>$b - 9 = s$ | b. $2s + b = 36$<br>$b + 9 = s$ | c. $2b + s = 36$<br>$s + 9 = b$ | d. $2s + b = 36$<br>$s + 9 = b$ |
|--------------------------------|---------------------------------|---------------------------------|---------------------------------|

**Try:** Create a linear system to model this situation:

In a board game, Judy scored 3 points more than twice the number of points Ann scored. There was a total of 39 points scored.

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|---------------------------------|----------------------------------|---------------------------------|---------------------------------|
| a. $j = 3 + 2a$<br>$j + a = 39$ | b. $j - 3 = 2a$<br>$j + 2a = 39$ | c. $j + 3 = 2a$<br>$j + a = 39$ | d. $a = 3 + 2j$<br>$j + a = 39$ |
|---------------------------------|----------------------------------|---------------------------------|---------------------------------|

**Example 3:** Create a linear system to model this situation:

Cheri operates a grass-cutting business. She charges \$19 for a small lawn and \$29 for a large lawn. One weekend, Cheri made \$287 by cutting 13 lawns.

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|--------------------------------------|--------------------------------------|
| a. $s + l = 13$<br>$19s + 29l = 287$ | c. $s + l = 13$<br>$29s + 19l = 287$ |
| b. $s + l = 287$<br>$19s + 29l = 13$ | d. $s + l = 287$<br>$29s + 19l = 13$ |

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**Chapter 7 System of Equations****Section 7.1B : Developing Systems of Linear Equations****Example 4:** Create a linear system to model this situation:

A rectangular field is 35 m longer than it is wide. The length of the fence around the perimeter of the field is 290 m.

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|----|-----------------|----|-----------------|----|---------------|----|--------------|
| a. | $l + 35 = w$    | b. | $l = w + 35$    | c. | $l = w + 35$  | d. | $l = w + 35$ |
|    | $2l + 2w = 290$ |    | $2l + 2w = 290$ |    | $l + w = 290$ |    | $lw = 290$   |

**Example 5:** Create a linear system to model this situation:

Tickets for a school play cost \$8 for adults and \$4.75 for students.

There were ten more student tickets sold than adult tickets, and a total of \$1399 in ticket sales was collected.

- |    |                     |    |                     |
|----|---------------------|----|---------------------|
| a. | $8a + 4.75s = 1399$ | c. | $8a + 4.75s = 1399$ |
|    | $s = a + 10$        |    | $a = s + 10$        |
| b. | $8a + 4.75s = 1399$ | d. | $4.75a + 8s = 1399$ |
|    | $a + s = 10$        |    | $s = a + 10$        |

**Example 6:** Solve the following system graphically.

$$\begin{aligned}-3x - y &= -5 \\ 4x - y &= 2\end{aligned}$$

